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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/539,637	03/30/2000	Fong-Shek Lam	10559/170001/P8263	8485

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EXAMINER	
WALLACE, SCOTT A	
ART UNIT	**PAPER NUMBER**
2675	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/539,637	LAM ET AL.	
	Examiner	Art Unit	
	Scott Wallace	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments with respect to claims 1-21 and 23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pannell, U.S. Patent No. 5,808,630 in view of Chee, U.S. Patent No. 5,694,141.

4. As per claims 1 and 23, Pannell discloses a line buffer to store up to a full line of video overlay data (fig 2) and reading pixel data for a current video line from the line buffer (fig 2). However, Pannell does not disclose setting an indicator in a line buffer, determining when the pixel data reaches the indicator; and loading data for the next video line into the line buffer based on the determining when the pixel data reaches the indicator, wherein the indicator is at approximately a middle of the line buffer. Chee discloses a FIFO (fig 6 and column11 lines 1-15) like the one used in Pannell and programmable pointers (fig 6 and column 11 lines 1-15), which are like the applicant's indicator. When the data falls below a certain pointer (indicator) then a request is made for additional data. The FIFO LO pointer can be placed at 4 in fig 6, which is approximately the mid-point of the FIFO. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use programmable pointers (indicators) as in Chee with the system of Pannell because this would ensure the FiFO will not run out of data (column 11 lines 25-32).

5. As per claims 2 and 10, Pannell discloses a line buffer to store up to a full line of video overlay data (fig 2) and reading pixel data for a current video line from the line buffer (fig 2). However, Pannell does not disclose setting an indicator in a line buffer, determining when the pixel data reaches the indicator; and loading data for the next video line into the line buffer based on the determining when the pixel data reaches the indicator, wherein the indicator is at approximately a middle of the line buffer and wherein loading data for the next video line into the line buffer comprises loading a first half of the data for the next video line when the pixel data being read reaches the indicator in the line buffer, and further comprises loading a second half of the data for the next video line when the pixel data being read reaches the end of the line buffer. Chee discloses a FIFO (fig 6 and column11 lines 1-15) like the one used in Pannell and programmable pointers (fig 6 and column 11 lines 1-15), which are like the applicant's indicator. When the data falls below a certain pointer (indicator) then a request is made for additional data. The FIFO LO pointer can be placed at 4 in fig 6, which is approximately the mid-point of the FIFO. When the pointer is at 4 and the data reaches the pointer then half of the FIFO is empty to be filled by the next video line. Since half is empty it can hold half of the next video line. The same is true when it reaches the end of the buffer. The same half empty FIFO is available for the rest of the video line which is the second half of the next line. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use programmable pointers (indicators) as in Chee with the system of Pannell because this would ensure the FiFO will not run out of data (column 11 lines 25-32).

6. As per claims 3 and 11, Panell does not disclose loading a first portion of the data for the next video line when the pixel data reaches the indicator; and loading a second portion of the data for the next video line when the pixel data reaches the end of the line buffer. Chee discloses a FIFO (fig 6 and column11 lines 1-15) like the one used in Pannell and programmable pointers (fig 6 and column 11 lines 1-15), which are like the applicant's indicator. When the data falls below a certain pointer (indicator) then a request is made for additional data. The FIFO LO pointer can be placed at 4 in fig 6, which is approximately the mid-point of the FIFO. When the pointer is at 4 and the data reaches the pointer then half of the FIFO is empty to be filled by the next video line. Since half is empty it can hold half of the next video line. The same is true when it reaches the end of the buffer. The same half empty FIFO is available

for the rest of the video line which is the second half of the next line. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use programmable pointers (indicators) as in Chee with the system of Pannell because this would ensure the FiFO will not run out of data (column 11 lines 25-32).

7. As per claims 4 and 12, Pannell discloses processing the current video line data for display (column 1 lines 37-46).

8. As per claims 5 and 13, Pannell discloses displaying the processed video line data (column 1 lines 37-46).

9. As per claim 6, Pannell discloses creating a video overlay from the processed video line data (column 1 lines 37-50).

10. As per claim 7, Pannell discloses positioning the pixel data on an active display to create a video overlay (column 1 lines 37-50).

11. As per claim 8, Pannell discloses reading video overlay data for a current video line from a line buffer, the line buffer to store up to a full line of the video overlay data (fig 2 and column 1 lines 37-50). However, Pannell does not disclose detecting the position in the line buffer where the video overlay data is located; and loading data for the next video line into the line buffer when the video overlay data for the current video line is located at a predetermined position approximately at a middle of the line buffer. Chee discloses a FIFO (fig 6 and column11 lines 1-15) like the one used in Pannell and programmable pointers (fig 6 and column 11 lines 1-15), which are like the applicant's indicator. When the data falls below a certain pointer (indicator) then a request is made for additional data. The FIFO LO pointer can be placed at 4 in fig 6, which is approximately the mid-point of the FIFO. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use programmable pointers (indicators) as in Chee with the system of Pannell because this would ensure the FiFO will not run out of data (column 11 lines 25-32).

12. As per claim 9, Chee discloses setting the predetermined position at a position before all the current line of video overlay data is read (fig 6 and column 11 lines 1-30).

13. As per claims 14 and 17, Pannell discloses a line buffer to store up to a full line of video overlay (fig 2 and column 1 lines 37-50), the line buffer adapted to provide data to a display (fig 2 and column 1 lines 37-50). However, Pannell does not disclose the line buffer having a plurality of memory locations; an indicator positioned at a predetermined memory location approximately in a middle of the line buffer, wherein the line buffer begins to read data for a next video data line when the line buffer provides data from the indicator memory location. Chee discloses a FIFO (fig 6 and column11 lines 1-15) like the one used in Pannell and programmable pointers (fig 6 and column 11 lines 1-15), which are like the applicant's indicator. When the data falls below a certain pointer (indicator) then a request is made for additional data. The FIFO LO pointer can be placed at 4 in fig 6, which is approximately the mid-point of the FIFO. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use programmable pointers (indicators) as in Chee with the system of Pannell because this would ensure the FiFO will not run out of data (column 10 lines 58-67 and column 11 lines 25-30).

14. As per claim 15, Pannell discloses graphic memory which provides the video pixel data to the line buffer (fig 2). However, Pannell does not disclose a pixel processing engine to determine whether data for a current video line has been read from the predetermined memory location in the line buffer, the pixel processing engine further to subsequently load a first portion of data for the next video line into the line buffer. Chee discloses a FIFO (fig 6 and column11 lines 1-15) like the one used in Pannell and programmable pointers (fig 6 and column 11 lines 1-15), which are like the applicant's indicator. When the data falls below a certain pointer (indicator) then a request is made for additional data. The FIFO LO pointer can be placed at 4 in fig 6, which is approximately the mid-point of the FIFO. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use programmable pointers (indicators) as in Chee with the system of Pannell because this would ensure the FiFO will not run out of data (column 11 lines 25-30).

15. As per claim 16, Pannell discloses wherein the line buffer provides data to the display for a current video line (fig 2 and column 1 lines 37-50).

16. As per claim 18, Pannell discloses a video memory which stores video data (fig 2); and overlay processing engine comprising: a line buffer to store up to a full line of video overlay data (fig 2 and

column 1 lines 37-50), the line buffer to receive the video overlay data from the video memory (fig 2); video processing circuitry to prepare the video overlay data in the line buffer to be displayed (fig 2 and column 1 lines 37-50); and a display to receive the processed data from the overlay processing engine (fig 2 and column 1 lines 37-50). However, Pannell does not disclose wherein said line buffer includes an indicator positioned at a predetermined memory location in the line buffer, wherein the predetermined memory location comprises approximately a middle point of the line buffer; wherein the line buffer is to read data for a next video data line when the line buffer provides a predetermined amount of data to the display for a current video data line. Chee discloses a FIFO (fig 6 and column11 lines 1-15) like the one used in Pannell and programmable pointers (fig 6 and column 11 lines 1-15), which are like the applicant's indicator. When the data falls below a certain pointer (indicator) then a request is made for additional data. The FIFO LO pointer can be placed at 4 in fig 6, which is approximately the mid-point of the FIFO. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use programmable pointers (indicators) as in Chee with the system of Pannell because this would ensure the FiFO will not run out of data (column 11 lines 25-30).

17. As per claim 19, most of the limitations are the same as claim 18 as seen above and therefore rejected as seen above. However, depending on where the pointer is determines how much data has reached the pointer and been displayed and how much of the next line is filling the FIFO as seen in Chee.

18. As per claim 20, Pannell discloses wherein the overlay processing engine provides data to the display to create a video overlay (fig 2 and column 1 lines 37-50).

19. As per claim 21, Pannell discloses wherein the video processing circuitry includes pixel color conversion and adjustment (fig 2, #130).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Wallace whose telephone number is 571-272-7652. The examiner can normally be reached on Mon-Fri 9-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott Wallace
Examiner
Art Unit 2675

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SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER